

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A gas dosing apparatus, ~~characterized in that it is comprised of~~ comprising a known volume container or metering chamber (9) ~~destined to contain the~~ of known volume for containing a gas that is to be injected, a supply of compressed gas connected to the ~~[[this]]~~ metering chamber (9) ~~being connected by means of a~~ an inlet duct to a supply of compressed gas (1), and a dosing injector connected to the metering chamber (9) through by an outlet duct, wherein said metering chamber has at least one sensor for measuring the pressure inside the metering chamber, at least one sensor for measuring the temperature inside the metering chamber, at least one temperature sensor exposed to the environment located on an external part of the gas dosing apparatus for measuring the temperature outside the metering chamber, and at least one pressure sensor exposed to the environment located on an external part of the gas dosing apparatus for measuring the pressure outside the metering chamber to a final dosing system injector (10).

2. (Currently amended) The gas dosing apparatus~~[[,]]~~ according to claim 1, ~~characterized in that~~ wherein between the compresses compressed gas supply ~~[[(1)]]~~ and the metering chamber ~~[[(9)]]~~ there is ~~[[a]]~~ located an intake valve ~~[[(3)]]~~.

3. (Currently amended) The gas dosing apparatus~~[[,]]~~ according to claim 2, ~~characterized in that~~ wherein the intake valve is an electrovalve that ~~permits to regulate~~ regulates the flow of gas from the compressed gas supply ~~[[(1)]]~~ to the metering chamber ~~[[(9)]]~~.

4. (Currently amended) The gas dosing apparatus[[,]] according to claim 1, ~~characterized in that~~ wherein between the metering chamber ~~[[9]]~~ and the ~~final dosing system or injector~~ ~~[[10]]~~ there is located an outlet valve ~~[[4]]~~.

5. (Currently amended) The gas dosing apparatus[[,]] according to claim 4, ~~characterized in that~~ wherein the outlet valve ~~[[4]]~~ is an electrovalve that ~~allows to regulate~~ regulates the flow of gas from the metering chamber ~~[[9]]~~ to the ~~final dosing system~~ ~~(10)~~ injector.

6-8. (Cancelled).

9. (Currently amended) The gas dosing apparatus[[,]] according to ~~any of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the pressure sensor in the metering chamber ~~(9)~~ ~~there is a pressure sensor (5)~~ that ~~permits to~~ continuously ~~measure~~ measures the pressure inside the metering chamber ~~[[9]]~~, or each time a pressure record is required.

10. (Currently amended) The gas dosing apparatus[[,]] according to ~~any of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the temperature sensor in the metering chamber ~~(9)~~ ~~there is a pressure sensor (6)~~ that ~~permits to~~ continuously ~~measure~~ measures the temperature of the gas inside the metering chamber at regular intervals or each time a pressure record is required.

11. (Cancelled).

12. (Currently amended) The gas dosing apparatus[[,]] according to claim ~~[[11]]~~ 1, ~~characterized in that~~ wherein the temperature sensor ~~[[7),]]~~ located on the external ~~[[side]]~~ part of the gas dosing apparatus, ~~permits to measure~~ measures room temperature in the location where the ~~final dosing takes place~~ injector is located,

said temperature sensor ~~allows to measure~~ measuring the external temperature on a continuous basis, at regular intervals, or each time a temperature record is required.

13. (Currently amended) The gas dosing apparatus[[,]] according to claim [[11]] 1, ~~characterized in that~~ wherein the temperature sensor [[(7),]] located on the external [[side]] part of the gas dosing apparatus is ~~a single sensor or an array of~~ temperature sensors.

14. (Cancelled).

15. (Currently amended) The gas dosing apparatus[[,]] according to ~~any of the preceding claims~~ claim 2, ~~characterized in that~~ wherein between the compressed gas supply [[(1)]] and the intake valve [[(3)]] there is a gas shut-off valve [[(2)]].

16. (Currently amended) The gas dosing apparatus[[,]] according to ~~any of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the compressed gas supply [[(1)]] contains ~~any a~~ a compressed gas (~~liquefied or otherwise~~) or is a pressurized line from which the gas to be dosified may be obtained.

17. (Currently amended) The gas dosing apparatus[[,]] according to ~~any of the preceding claims~~ claim 1, ~~characterized in that~~ wherein the temperature and pressure sensors are connected to an electronic control system.

18. (Currently amended) The gas dosing apparatus[[,]] according to claim 17, ~~characterized in that~~ wherein the electronic control system ~~comprises~~ includes a digital microprocessor circuit [[(8)]] and a control panel [[(11)]].

19. (Currently amended) The gas dosing apparatus[[,]] according to claim 18, ~~characterized in that the electronic control system comprises a digital microprocessor circuit (8) and a control panel (11),~~ wherein the microprocessor ~~permits~~

~~to process~~ processes information provided by the temperature and pressure sensors, and performs ~~necessary~~ calculations from ~~[[the]]~~ data entered by the control panel (41) ~~in order~~ to determine the correct amount of gas to be ~~applied~~ injected.

20. (Currently amended) A ~~Method~~ method of gas dosing~~[[,]]~~ characterized in that it ~~comprises~~ comprising the steps of: allowing ~~the flow of a~~ determined predetermined amount of gas to flow to a ~~constant volume~~ metering chamber of known volume; measuring the pressure and temperature of the gas inside the metering chamber with internal pressure and temperature sensors; measuring the temperature outside the metering chamber with an external temperature sensor; measuring the pressure outside the metering chamber with an external pressure sensor; and allowing the discharge of a pre-set amount of gas ~~by the activation of the application system~~ from the metering chamber based on the measurements of the temperature and pressure sensors.

21. (Currently amended) The method of gas dosing~~[[,]]~~ according to claim 20, ~~characterized in that it comprises (a) wherein opening of the an~~ intake valve (3) ~~to permit the controlled~~ controls entry of gas from a ~~storage container or compresses~~ compressed gas supply (9) ~~of constant volume keeping the~~ to the metering chamber while an outlet valve allowing discharge of gas from the metering chamber is closed.

22. (Currently amended) The method of gas dosing~~[[,]]~~ according to ~~claims 20~~ claim 21, ~~characterized in that stage (b) comprises wherein the measurement of pressure by means of a~~ the internal pressure sensor ~~that records the increase in the pressure inside the metering chamber up to a pre-set value~~.

23. (Currently amended) The method of gas dosing[[,]] according to claim 22, ~~characterized in that~~ wherein once the ~~desired~~ pre-set value of the pressure has been reached ~~at stage (b), it comprises the closing of the intake valve~~ [[(3)]] ~~is closed.~~

24. (Currently amended). The method of gas dosing[[,]] according to claim 23, ~~characterized in that~~ wherein once the intake valve [[(3)]] has been closed, ~~it comprises the measurement of the temperature of the gas stored in the metering chamber~~ is measured by means of a the internal temperature sensor [[(6)]].

25. (Cancelled).

26. (Currently amended) The method of gas dosing[[,]] according to ~~claims 20 to 25~~ claim 22, ~~characterized in that stage (c) comprises the execution of an application~~ wherein the gas is discharged from the metering chamber with [[the]] a dosing gun, which gun transmits a signal to a microprocessor, ~~wherein the microprocessor, once it has received the application signal, permits to open~~ opening the outlet valve to start the discharge of the gas from the metering chamber.

27. (Currently amended) The method of gas dosing[[,]] according to claim 26, ~~characterized in that~~ wherein once the microprocessor has detected the pre-set pressure within the metering chamber, it closes the gas outlet valve.

28. (Currently amended) The method of gas dosing[[,]] according to ~~claims 20 to 27~~ characterized in that claim 20, wherein the cycle is repeated to refill the metering chamber ~~and set the equipment~~ for a new dosing operation.